

**DERWENT-ACC-NO: 1982-72353E**  
**DERWENT-WEEK: 198234**  
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**TITLE: Achieving good surface stress distribution in hard metal prod. -  
by  
burnishing surface using tool with hard spheroidal tip**

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**PATENT-ASSIGNEE: BOART INT LTD[BOARN]**

**PRIORITY-DATA: 1980ZA-0002316 (April 18, 1980) , 1981ZA-0003064  
(May 8, 1981)**

**PATENT-FAMILY:**

<b>PUB-NO</b>	<b>PUB-DATE</b>	<b>LANGUAGE</b>	<b>PAGES</b>
<b>MAIN-IPC</b>			
<b>ZA 8103064 A</b>	<b>March 26, 1982</b>	<b>N/A</b>	<b>010 N/A</b>

**INT-CL\_(IPC): B24B000/00; B24D000/00 ; C21D000/00**

**ABSTRACTED-PUB-NO: ZA 8103064A**

**BASIC-ABSTRACT: A favourable surface stress distribution is produced  
in a  
hardmetal article by burnishing the surface of the article under  
pressure to  
deform the surface zone of the article. The burnishing tool has a  
spheroidal  
tip of material, pref. diamond or a natural or synthetic diamond or  
cubic boron  
nitride compact, which is at least as hard as the hardmetal of which  
the  
article is made.**

**The article and the burnishing tool are moved relative to each other so**

**that**

**the article surface is deformed in parallel strips which are close to one another, pref. contiguous or overlapped. In an embodiment, a cobalt-cemented tungsten carbide roll is hot or cold burnished, while it is rotating, by means of a burnishing tool which forms overlapping helical grooves of up to 10 microns depth of deformation .**

**TITLE-TERMS:**

**ACHIEVE SURFACE STRESS DISTRIBUTE HARD METAL PRODUCT  
BURNISH SURFACE TOOL HARD  
SPHERE TIP**

**DERWENT-CLASS: M24 P61**

**CPI-CODES: M24-D01B; M29-B;**